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HARRITY SNYDER, LLP 11350 Random Hills Road SUITE 600 FAIRFAX, VA 22030			PYO, MONICA M	
			ART UNIT	PAPER NUMBER
			2161	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/668,721

Applicant(s)

HAAHR ET AL.

Examiner

Monica M. Pyo

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-78 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03-04-06-06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-78 are present for examination.
2. Claims 1-78 are rejected.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 12/1/2003, 9/9/2004, 2/23/2006 and 2/28/2006 were filed and considered by the examiner.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

4. Regarding Claim 1-24, these claims are rejected under 35 U.S.C. 101 as being drawn to non-statutory subject matter.

MPEP 2106.IV.B.1

Claims to processes that do nothing more than solve mathematical problems or manipulate abstract ideas or concepts are more complex to analyze and are addressed below.

If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *Schrader*, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

From the new 35 U.S.C. 101 rule:

(2) "TANGIBLE RESULT"

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a Sec. 101 judicial exception, in that the process claim must set forth a practical application of that Sec. 101 judicial exception to produce a real-world result. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application."). "[A]n application of a law of nature or mathematical formula to a . . . process may well be deserving of patent protection." *Diehr*, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also *Corning*, 56 U.S. (15 How.) at 268, 14 L.Ed. 683 ("It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted . . ."). In other words, the opposite meaning of "tangible" is "abstract."

Claims 1-24, in view of above cited MPEP sections, are not statutory because they are drawn to the manipulation of an abstract idea without a concrete or tangible result. See Schrader, 22 F.3d at 295, 30 USPQ2d. Claims 1-24 are directed to ‘an abstract idea’, which are directed to a matching system to matching and scoring data from a plurality of stored data (friends and colleagues who are stored in our mind), which can be implemented by the mind of a person or by the use of a pencil and paper. The Examiner suggests reading the website which discloses the new 35 U.S.C. 101 rule:

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

- The term “a searcher” of line 4 in claim 25 is not defined nor disclosed in the specification. For the examining purpose, the Examiner interprets the term “a searcher” as “a user”.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-27, 29-44, 46-48, 50-65, and 67-78 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,026,388 issued to Liddy et al. (hereafter Liddy).

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Claims 1, 12 and 24:

Regarding Claim 1, Liddy discloses a system for creating query refinement suggestions, comprising (col. 6, lns. 27-35):

a matcher matching at least one search document retrieved responsive to a query to one or more stored queries (col. 7, lns. 17-25 and 44-51); and

a scorer scoring the stored query as a potential query refinement suggestion (col. 15, lns. 53-61; col. 16, lns. 3-6).

Claims 12 and 24 are also rejected based upon the same reasoning as Claim 1.

Claims 2 and 13:

Regarding Claim 2, Liddy disclose the system further comprising:

a document matcher matching the at least one search document to one or more stored documents associated with the one or more stored queries (col. 7, lns. 17-25 and 44-51; col. 12, lns. 1-7).

Claim 13 is also rejected based upon the same reasoning as Claim 2.

Claims 3 and 14:

Regarding Claim 3, Liddy disclose the system further comprising:

a weight associated with at least one such stored query (col. 12, lns. 15-20); and

a clusterer forming at least one cluster based on the stored query and weight (col. 7, lns. 44-51; col. 25, lns. 14-17).

Claim 14 is also rejected based upon the same reasoning as Claim 3.

Claims 4 and 15:

Regarding Claim 4, Liddy disclose the system further comprising:

a term vector used in cluster formation computed from terms extracted from the stored query and based on the weight for the stored query (col. 7, Ins. 44-51; col. 25, Ins. 14-20).

Claim 15 is also rejected based upon the same reasoning as Claim 4.

Claims 5 and 16:

Regarding Claim 5, Liddy disclose the system further comprising:

a distance for the term vector (col. 23, Ins.20-28); and

the cluster forming the at least one cluster relative to the distance (col. 23, Ins. 23-28; col. 26, Ins. 3-9).

Claim 16 is also rejected based upon the same reasoning as Claim 5.

Claims 6 and 17:

Regarding Claim 6, Liddy disclose the system further comprising:

a ranker ranking the at least one cluster relative to the at least one other cluster by evaluating a relevance score associated with each search document corresponding to each matched stored document (col. 26, Ins. 3-9 and 14-26).

Claim 17 is also rejected based upon the same reasoning as Claim 6.

Claims 7 and 18:

Regarding Claim 7, Liddy disclose the system further comprising:

a selector selecting at least one ranked cluster as a potential refinement cluster (col. 28, Ins. 27-38).

Claim 18 is also rejected based upon the same reasoning as Claim 7.

Claims 8 and 19:

Regarding Claim 8, Liddy disclose the system further comprising:

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a centroid computed as a weighted center of the at least one cluster (col. 25, lns.30-34);
and

a score computed for each stored query relative to the centroid (col. 25, lns. 34-45; col. 26, lns. 14-26).

Claim 19 is also rejected based upon the same reasoning as Claim 8.

Claims 9 and 20:

Regarding Claim 9, Liddy disclose the system further comprising: a selector naming the at least one cluster for at least one scored stored query (col. 25, lns. 30-37).

Claim 20 is also rejected based upon the same reasoning as Claim 9.

Claims 10 and 21:

Regarding Claim 10, Liddy disclose the system further comprising:

a threshold applied to the stored scored query (col. 7, lns. 44-51; col. 15, lns. 11-17).

Claim 21 is also rejected based upon the same reasoning as Claim 10.

Claims 11 and 22:

Regarding Claim 11, Liddy disclose the system further comprising:

a precomputation engine associating one or more stored documents to the stored query based on at least one of a chosen search document, a set of search documents, regenerated previous search documents, and inverted cached document and query pairings (col. 7, lns. 42-51 and 56-67; col. 12, lns. 2-5; col. 15, lns. 53-67).

Claim 22 is also rejected based upon the same reasoning as Claim 11.

Claim 23, 67 and 77:

Regarding Claim 23, Liddy disclose a computer-readable storage medium holding code for performing the method according to claim 12 (col. 6, lns. 27-35).

Claims 67 and 77 are also rejected based upon the same reasoning as Claim 23.

Claims 25, 46 and 68:

Regarding Claim 25, Liddy disclose a system for providing search query refinements, comprising:

an associator associating a stored query and a stored document as a logical pairing and assigning a weight to the logical pairing (col. 7, lns. 44-54; col. 12, lns. 15-20) ;

a searcher issuing the search query and producing a set of search documents (col. 27, lns. 9-15);

a matcher matching at least one search document to at least one stored document and retrieving the stored query and the assigned weight associated with the matching at least one stored document (col. 7, lns. 17-25 and 44-51; col. 12, lns. 15-20);

a clusterer forming at least one cluster based on the stored query and the assigned weight associated with the matching at least one stored document (col. 7, lns. 44-51; col. 25, lns. 14-17);
and

a scorer scoring the stored query associated with the matching at least one stored document for the at least one cluster relative to at least one other cluster and suggesting at least one such scored search query as a set of query refinements (col. 7, lns. 59-64; col. 15, lns. 53-61; col. 16, lns. 3-6).

Claims 46 and 68 are also rejected based upon the same reasoning as Claim 25.

Claims 26 and 47:

Regarding Claim 26, Liddy disclose the system further comprising:
a selector selecting one such search document chosen from among the set of search documents responsive to the search query issuance as the at least one such search document (col. 7, lns. 20-25).

Claim 26 is also rejected based upon the same reasoning as Claim 47.

Claims 27 and 48:

Regarding Claim 27, Liddy disclose the system further comprising:
a selector selecting the set of search documents as the at least one such search document (col. 7, lns. 20-25).

Claim 27 is also rejected based upon the same reasoning as Claim 48.

Claims 29 and 50:

Regarding Claim 29, Liddy disclose the system further comprising:
a cache associating at least one cached document and one or more cached queries as a cached pairing (col. 15, lns. 53-61); and
an inverter inverting each cached pairing to associate at least one cached query and one or more cached documents as the at least one such search document (col. 15, lns. 63-67; col. 16, lns. 9-18).

Claim 29 is also rejected based upon the same reasoning as Claim 50.

Claims 30 and 51:

Regarding Claim 30, Liddy disclose the system wherein relevancy to the stored query is estimated for the stored document as the weight assigned to the pairing (col. 12, lns. 1-10 and 15-20).

Claim 30 is also rejected based upon the same reasoning as Claim 51.

Claims 31 and 52:

Regarding Claim 31, Liddy disclose the system wherein each such assigned weight for a plurality of pairings corresponding to the stored query and the stored document is summed (col. 12, lns. 7-12).

Claim 31 is also rejected based upon the same reasoning as Claim 52.

Claims 32 and 53:

Regarding Claim 32, Liddy disclose the system wherein each stored query comprises one or more terms, further comprising (col. 7, lns. 20-25):

a term vector comprising the terms in the stored query associated with the matching at least one stored document (col. 7, lns. 44-51; col. 25, lns. 14-20);

a distance determined for the term vector (col. 23, lns.20-28); and

the clusterer forming the at least one cluster relative to the distance (col. 23, lns. 23-28; col. 26, lns. 3-9).

Claim 53 is also rejected based upon the same reasoning as Claim 32.

Claims 33 and 54:

Regarding Claim 33, Liddy disclose the system further comprising:

a normalizer normalizing the term vector (col. 23, lns. 21-23).

Claim 54 is also rejected based upon the same reasoning as Claim 33.

Claims 34 and 55:

Regarding Claim 34, Liddy disclose the system further comprising:

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an evaluator computing a length of the term vector in multi-dimensional space with each dimension equaling a sum of the weights of the term in a set of associated stored queries (col. 23, lns. 23-35).

Claim 55 is also rejected based upon the same reasoning as Claim 34.

Claims 35 and 56:

Regarding Claim 35, Liddy disclose the system further comprising:

a relevance score assigned to the at least one search document (col. 12, lns. 1-10 and 15-20); and

a ranker ranking the at least one cluster relative to the at least one other cluster by the relevance score associated with the matching at least one search document and a number of the matching at least one search document (col. 26, lns. 3-9 and 14-26).

Claim 56 is also rejected based upon the same reasoning as Claim 35.

Claims 36 and 57:

Regarding Claim 36, Liddy disclose the system further comprising:

a selector selecting one of more of the ranked at least one cluster as potential refinement clusters based on the rankings (col. 28, lns. 27-36).

Claim 57 is also rejected based upon the same reasoning as Claim 36.

Claims 37 and 58:

Regarding Claim 37, Liddy disclose the system further comprising:

a centroid computed as a weighted center for each such potential refinement cluster (col. 25, lns. 34-45); and

the scorer scoring the stored query associated with the matching at least one stored document for the potential refinement cluster relative to the centroid (col. 25, lns. 34-45; col. 26, lns. 14-26).

Claim 58 is also rejected based upon the same reasoning as Claim 37.

Claims 38 and 59:

Regarding Claim 38, Liddy disclose the system further comprising:

an evaluator computing the centroid as a normalized sum of a product of the term vector for each stored query and the relevance score associated with the matching at least one search document (col. 25, lns.30-34; col. 35, lns. 8-19).

Claim 59 is also rejected based upon the same reasoning as Claim 38.

Claims 39 and 60:

Regarding Claim 39, Liddy disclose the system further comprising:

a length of a distance vector determined from the term vector and the centroid (col. 23, lns.20-28; col. 25, lns. 34-45); and

the scorer computing the score for the scored query as a product of a number of stored documents with which the stored query is associated and the distance vector length (col. 25, lns. 34-45; col. 26, lns. 14-26).

Claim 60 is also rejected based upon the same reasoning as Claim 39.

Claims 40 and 61:

Regarding Claim 40, Liddy disclose the system further comprising:

a selector selecting the stored query associated with the matching at least one stored document relative to a threshold (col. 7, lns. 44-51; col. 15, lns. 11-17).

Claim 61 is also rejected based upon the same reasoning as Claim 40.

Claims 41 and 62:

Regarding Claim 41, Liddy disclose the system further comprising:

a sorter sorting the set of query refinements (col. 33, lns. 45-50 and 55-61).

Claim 62 is also rejected based upon the same reasoning as Claim 41.

Claims 42 and 63:

Regarding Claim 42, Liddy disclose the system further comprising:

a presenter presenting the set of query refinements (col. 7, lns. 57-64).

Claim 63 is also rejected based upon the same reasoning as Claim 42.

Claims 43 and 64:

Regarding Claim 43, Liddy disclose the system further comprising:

a set of supplemental query refinements negating each term in the set of query refinements not present in the search query and using the negated terms in combination with the search query as at least one supplemental query refinement (col. 7, lns. 44-51 and 57-64).

Claim 64 is also rejected based upon the same reasoning as Claim 43.

Claims 44 and 65:

Regarding Claim 44, Liddy disclose the system further comprising:

an association database maintaining the pairings (col. 7, lns. 14-25).

Claim 65 is also rejected based upon the same reasoning as Claim 44.

Claims 69, 73 and 78:

Regarding Claim 69, Liddy disclose a system for integrating query refinement candidates, comprising:

a matcher matching at least one search document retrieved responsive to a query to one or more stored documents associated with a stored query and weight and matching at least one further search document retrieved responsive to a candidate query to the one or more stored documents (col. 7, lns. 17-25 and 44-51; col. 12, lns. 15-20; col. 26, lns. 1-9);

a cluster forming at least one cluster based on the stored query and weight associated with each stored document matched responsive to the query and forming at least one further cluster based on the stored query and weight associated with each stored document matched responsive to the candidate query (col. 7, lns. 44-51; col. 25, lns. 14-17 and 24-29);

a combiner combining the at least one cluster and the at least one further cluster (col. 25, lns. 54-66); and

a scorer scoring the stored query for the combined cluster relative to at least one other cluster as a potential query refinement suggestion (col. 25, lns. 62-66).

Claims 73 and 78 are also rejected based upon the same reasoning as Claim 69.

Claims 70 and 74:

Regarding Claim 70, Liddy disclose the system further comprising:

a set of candidate query refinements comprising at least one such candidate query (col. 35, lns. 44-50).

Claim 74 is also rejected based upon the same reasoning as Claim 70.

Claims 71 and 75:

Regarding Claim 71, Liddy disclose the system further comprising:

an evaluator assigning at least one such candidate query to the at least one cluster (col. 35, lns. 59-65; col. 37, lns. 16-19).

Claim 75 is also rejected based upon the same reasoning as Claim 71.

Claims 72 and 76:

Regarding Claim 72, Liddy disclose the system further comprising:

a builder creating an orthogonal set of candidate query refinements comprising at least one such unassigned query candidate (col. 26, lns. 14-26).

Claim 76 is also rejected based upon the same reasoning as Claim 72.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 28, 45, 49 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liddy as applied to claims 1-27, 29-44, 46-48, 50-65, and 67-78 above, and further in view of U.S. Patent Application Publication No. 2003/0014399 by Hansen et al. (hereafter Hansen).

Claims 28 and 49:

Regarding Claim 28, Liddy disclose the system further comprising:

a regenerator regenerating a set of previous search documents produced by the previous search queries as the at least one such search document (Liddy: col. 3, lns. 7-15).

Liddy does not disclose: a query log track previous search queries; and

However, Hansen discloses a query log track previous search queries (Hansen: [0048], lns. 1-9); and

It would have been obvious to a person with ordinary skill in the art at the time of invention to incorporate the method of organizing records of database search activities of Hansen into the natural language information retrieval system of Liddy. Skilled artisan would have been motivated to incorporate the Hansen's teaching of log of pervious search queries in the Liddy's relevant document query system to utilize the log to track and obtain the user's searching behaviors as suggest by Hansen, which discloses "constructs a database of search engine queries and a subset of URLs visited in response to those queries" (Hansen: [0023], Ins. 10-18)

Claim 49 is also rejected based upon the same reasoning as Claim 28.

Claims 45 and 66:

Regarding Claim 45, Liddy disclose the system wherein at least one of each such stored document and each such search document is

Liddy does not disclose: specified as at least one of a Uniform Resource Locator (URL), hyperlink, anchor, and document excerpt.

However, Hansen discloses specified as at least one of a Uniform Resource Locator (URL), hyperlink, anchor, and document excerpt (Hansen: [0045], Ins. 10-16).

It would have been obvious to a person with ordinary skill in the art at the time of invention to incorporate the method of organizing records of database search activities of Hansen into the natural language information retrieval system of Liddy. Skilled artisan would have been motivated to incorporate the Hansen's teaching of log of pervious search queries in the Liddy's relevant document query system to utilize the log to track and obtain the user's searching behaviors as suggest by Hansen, which discloses "constructs a database of search engine queries and a subset of URLs visited in response to those queries" (Hansen: [0023], Ins. 10-18).

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Claim 66 is also rejected based upon the same reasoning as Claim 45.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica M. Pyo whose telephone number is 571-272-8192. The examiner can normally be reached on Mon-Fri 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
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Art Unit 2161

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